

### REMARKS

Claims 7-12 are pending in the application. These claims were rejected as follows:

Claims / Section	35 U.S.C. Sec.	References / Notes
12	§101 Non-statutory subject matter	<ul style="list-style-type: none"><li>• Conflicting statutory categories.</li></ul>
7 & 12	§112, Second paragraph, indefiniteness	<ul style="list-style-type: none"><li>• Various claim terms.</li></ul>
7-12	§102 (a), (e)	<ul style="list-style-type: none"><li>• Bhandari (U.S. Patent No. 5,663,900).</li></ul>

5           Applicant has amended the specification, cancelled claim 12, and added claim 13, and has provided discussion below distinguishing the present invention from the art cited against it. Applicant thanks the Examiner for the clarity and thoroughness with which the arguments were presented in the OA.

#### **35 U.S.C. §101, NON-STATUTORY SUBJECT MATTER OF CLAIM 12**

10           1. *Applicant has cancelled claim 12 and added claim 13 which comprises the structural components of the apparatus along with the relationships of those components with one another.*

          In the OA, on page 2, ¶10, the Examiner indicated that the “system” of claim 12 comprises both a process and a machine, and thus is not a permitted  
15   statutory category.

          Applicant has replaced claim 12 with claim 13, removing language that may serve to confuse the statutory class of the claim. Claim 13 is now clearly

directed towards an apparatus, and the structural components of that apparatus are enumerated after the preamble.

Applicant thus respectfully contends that claim 13 comprises statutory subject matter and requests that the 35 U.S.C. §101 rejection be withdrawn from  
5 the application.

**35 U.S.C. §112, SECOND PARAGRAPH, INDEFINITENESS OF CLAIMS 7 AND 12**

2. *Applicant has amended the specification to clarify that precise simulated time does not elapse during accelerated code execution.*

Applicant has amended the specification regarding the definition of how  
10 simulated time elapses during the accelerated code execution—namely, that precise simulated time does not elapse during the accelerated operational mode.

Applicant believes this clarification does not introduce new matter, as this adjective can be inferred by the statements surrounding this paragraph. In the preceding portion of this definitional sentence, the sentence states that during  
15 the normal simulation, the microcontroller and the peripheral module are simulated with a precise clock cycle. The precision is necessary during “normal simulation” to ensure that the interacting elements are operating in a synchronized manner in order to replicate the system and produce system states as accurately as possible.

20 However, at certain times, it is not necessary for this degree of synchronization to be present. Thus, in the accelerated code execution, the maintenance of precise (or true) simulated time does not have to be maintained. The original wording of this paragraph thus should not be interpreted that

absolutely no simulated time elapses during accelerated code execution, but only that the precise simulated time as in the normal simulation need not be maintained. Obviously, as indicated in the last sentence on p. 3 of the Specification, the operation of the inventive simulator e.g., utilizes a peripheral  
5 module of a serial module that simply files data in the output buffer direction in memory for simulation purposes (accelerated operational mode)—this is distinguished from the non-accelerated operational mode situation in which a serial interface would have to convert the serial data bit-by-bit into an output signal, etc. In the former accelerated operational mode, it is not meant to be  
10 inferred that the serial data is input instantaneously, only that the elaborate functional aspects and timing of the serial input processes need not be maintained for the simulation where such aspects and timing are unimportant.

Applicant believes that the clarifying amendment to the Specification paragraph is sufficient for overcoming the 35 U.S.C. §112, second paragraph,  
15 rejection and does not introduce new matter, and accordingly asks the Examiner to withdraw the §112 rejection from the application. If the Examiner does not believe this amendment is adequate or unclear in any manner, Applicant requests that the Examiner call the Applicant's representative for clarification.

**35 U.S.C. §102(a), (e) ANTICIPATION OF CLAIMS 7-12 BY BHANDARI**

20 3. *Bhandari does not disclose that the first sequence of steps comprises inserted markers.*

In numbered ¶33 of the OA, the Examiner indicates that the element "said first sequence of steps having markers inserted therein is disclosed by Bhandari

at column 2 line 7, 'software program... single step... interrupt'. Applicant respectfully disagrees.

Bhandari, at 2/7-9, does clearly indicate that a software program can be used to control simulation operation, and that such control can comprise, e.g.,  
5 start, single-step, monitor, or interrupt. However, this is not the insertion of a "marker" according to the present invention. The marker, as used according to the invention, is a noun, i.e., it is a tangible thing. This is clearly demonstrated by the Specification at p. 4, lines 23-24, suggesting that the markers can be removed once the simulation is complete. The control suggested by Bhandari is  
10 solely referred to by verbs in the portion cited by the Examiner—as such, these verbs are not tangible things that could be "removed".

By analogy, a music tape deck may be controlled by the use of start, stop, fast-forward, pause, etc. buttons, but these do not constitute any type of a "marker" being utilized by the system. The Merriam-Webster computer-based  
15 dictionary (v. 2.5, copyright 2000) defines a marker, in relevant portion as:

2.f : something (as a person, flag, stake, ship) posted  
at a point to indicate a position (as of a military unit,  
an obstacle)

The use of such markers would not even be obviated by Bhandari, since  
20 they provide significant functional flexibility not afforded by the mere control mechanisms (start, single step, monitor, interrupt) suggested by Bhandari, i.e., they can be inserted before a simulation is run, they can be removed when all simulations are complete, they can include additional information (see, e.g., Specification, p. 5, line 25 to p. 6, line 2), etc. This is not a mere obvious

variation of the control suggested by Bhandari as its implementation requires consideration of significant design-related issues.

4. *Bhandari does not disclose that the first sequence of steps is interrupted by the markers and that the second sequence of steps is executed as*  
5 *dictated by the markers.*

The Examiner states in the OA on p. 5 under numbered ¶35 that Bhandari discloses execution of the second sequence of steps as dictated by the markers inserted into the first sequence.

As argued above, Applicant does not believe Bhandari teaches or  
10 suggests the insertion of markers by the “single step” or “interrupt” of the software program used to control simulation operations. However, even if, for the sake of argument, this portion of the disclosure were to be construed as the “insertion of markers”, claim 7 requires that the interrupting of the first sequence of steps for executing the second sequence of steps is done “as dictated by said  
15 markers”. In Bhandari, there is nothing that teaches or suggests “as dictated by said markers”. The Examiner cites to Bhandari at 4/21 regarding “asynchronous operation” of the second sequence of steps, but there is no teaching in Bhandari as to how this is done—specifically there is no linking to the language of “single step, monitor, or interrupt” utilized by the Examiner as the marking element. In  
20 order to serve as a prior art reference, a reference must teach or suggest the anticipating element, and here there is no indication as to how this would be performed.

*5. Applicant relies on the above arguments for the patentability of remaining claims 8-11, 13. Applicant further points out the amendment to claim 9 indicating that the program codes correspond to program codes of at least one of the modules to be simulated.*

5           Claim 9 has been amended to clarify that the consecutive program codes correspond to program codes of at least one of the modules to be simulated. This is distinguished from the portion of Bhandari cited by the Examiner of the software program used to control simulation operations at 2/7. According to Bhandari, it is the program codes of the software of the control program that is  
10   executed, however, according to claim 9, as amended, the sequence steps correspond to program codes of the modules to be simulated, and not the control program software, that is indicated.

          For these reasons, applicant believes that the above arguments and amendments clearly serve to distinguish the present invention from Bhandari and  
15   respectfully request that the 35 U.S.C. §102 rejection be withdrawn from the application.

### CONCLUSION

Inasmuch as each of the objections have been overcome by arguments and the amendments, and all of the Examiner's suggestions and requirements have been satisfied, it is respectfully requested that the present application be reconsidered, the rejections be withdrawn and that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

 (Reg. No. 45,877)

Mark Bergner  
SCHIFF HARDIN & WAITE  
PATENT DEPARTMENT  
6600 Sears Tower  
Chicago, Illinois 60606-6473  
(312) 258-5779  
Attorney for Applicants  
Customer Number 26574

### CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on October 21, 2003.

  
Mark Bergner Attorney for Applicants